

LETTER

FIRST RECORD OF INTERSPECIFIC CARTWHEELING BETWEEN LARGE RAPTORS: *Buteo poecilochrous* AND *Geranoaetus melanoleucus*

Two raptors engaging each other by the feet or talons and mutually rotating about a central axis while falling earthward has been variously and inconsistently referred to as “cartwheeling,” “whirling,” and “talon-grappling,” (L. Brown and D. Amadon 1968, *Eagles, hawks and falcons of the world*, Vol. 1, Country Life Books, London, U.K., I. Newton 1979, *Population ecology of raptors*, Buteo Books, Vermillion, SD U.S.A.; W.S. Clark 1984, *Condor* 86:488; R.E. Simmons and J.M. Mendelsohn 1993, *Ostrich* 64:13–24). Although these terms often are used more or less interchangeably, not all cases of foot engagement are followed by rotation; sometimes only brief contact is made (G. Blaine 1970, *Falconry*, Neville Spearman, London, U.K.; R. Sierra 1985, *Distribución, Presas y Ecología Reproductiva de Geranoaetus melanoleucus en los Andes Equinocciales*, Provincia de Pichincha, Ecuador, Tesis de Lic., Pontificia Univ. Católica del Ecuador, Quito, Ecuador; D.H. Ellis 1992, *J. Raptor Res.* 26:41–42). We use the term “cartwheeling,” and recommend it to describe the combination of behaviors involving initially the interlocking of feet known as “talon-grappling” followed by a “cartwheel-like” rotation.

On 24 May 1993, while observing a pair of breeding Gurney’s buzzards (*Buteo poecilochrous*) at a known nesting area (78°15’W, 0°15’S) approximately 35 km east-southeast of Quito, Ecuador, we witnessed a spectacular example of interspecific cartwheeling between the female of the Gurney’s buzzard pair and an adult black-chested buzzard-eagle (*Geranoaetus melanoleucus*), presumed to be a male.

We were watching the buzzards as they patrolled the western side of a ridge crest in their nesting area when, at 1500 H, the black-chested buzzard-eagle appeared from the northeast slowly soaring somewhat lower than the pair of buzzards. The buzzards began giving alarm calls and flew toward the intruder. The male buzzard attacked the buzzard-eagle first, making three or more short stoops at the intruder, but pulling up before making contact. On each stoop the buzzard-eagle rolled over and presented its talons to the buzzard. During these exchanges the female Gurney’s buzzard circled above and then dove straight toward the buzzard-eagle with her wings tucked in. Unlike the male, however, she continued her attack until she made contact with the buzzard-eagle which again flipped upward presenting its talons. The buzzard and buzzard-eagle locked their feet together and, with their wings outspread, rotated downward in 6–8 moderately rapid “cartwheels.” The cartwheeling episode lasted only 3–4 sec, and the birds broke free of their grasp about 60 m above the ground. Neither participant seemed to be in danger of striking the ground nor of losing aerodynamic control, and neither appeared to be injured. The buzzard-eagle then turned back in the opposite direction from which it came, and glided down to perch on a large boulder some 100 m away. The female Gurney’s buzzard rejoined the male, which had been circling overhead, and both flew to perch on some low-lying rocks within their nesting area.

Both cartwheeling and talon-grappling behaviors have been widely reported, but the majority of these cases have been within species, typically between defender and intruder, parent and offspring, siblings, or mates (e.g., D. Watson 1977, *The hen harrier*, T. & A.D. Poyser, Berkhamsted, U.K.; M.A. Springer 1979, *J. Raptor Res.* 13:19; Simmons and Mendelsohn 1993). In contrast, there is very little documentation of either of these behaviors occurring between species, suggesting they are quite rare. The interaction we observed was clearly a case of agonistic rather than courtship behavior, and is thus consistent with the suggestion by Simmons and Mendelsohn (1993) that instances of cartwheeling are generally agonistic in nature.

In their comprehensive review of cartwheeling in the Falconiformes, Simmons and Mendelsohn (1993) cite just one definite interspecific account, between a hen harrier (*Circus cyaneus*) and a common kestrel (*Falco tinnunculus*) in Scotland (Watson 1977). Other published records of interspecific encounters in which cartwheeling was implied all involved European falcons: hobby (*F. subbuteo*) and common kestrel (S.J. Hayhow 1988, *Br. Birds* 81:324); red-footed falcon (*F. vespertinus*) and common kestrel (M. Coath 1992, *Br. Birds* 185:496); and, merlin (*F. columbarius*) and peregrine falcon (*F. peregrinus*; M.S. Wallen 1992, *Br. Birds* 85:496). Jiménez and Jaksić (1989, *Condor* 91:913–921; 1993, *J. Raptor Res.* 27:143–148; and pers. comm.) reported no incidences of talon-grappling or cartwheeling in their lengthy field studies on black-chested buzzard-eagles and other raptors in Chile.

We thank D. Amadon, R.H. Barth, N.J. Farquhar, F. Jaksić, J. Jiménez, J.M. Mendelsohn, and B. Whitney for constructive comments on earlier drafts. We are also grateful to T. de Vries and L.E. López, Pontificia Universidad

¹ Present address: Texas Natural Heritage Program, Texas Parks and Wildlife Department, 3000 I-35 South, Suite 100, Austin, TX 78704 U.S.A.

Católica del Ecuador, Quito. This work was part of a study by CCF on the ecology and systematics of *B. polyosoma* and *B. poecilochrous* supported by a Frank M. Chapman Research Fellowship from the American Museum of Natural History, New York.—**C. Craig Farquhar,¹ Department of Ornithology, American Museum of Natural History, Central Park West at 79th, New York, NY 10024 U.S.A.; William S. Clark, 7800 Dasset Court, Apt. 101, Annandale, VA 22003 U.S.A.; Robert G. Wright, Wisconsin Department of Natural Resources, 3550 Mormon Coulee Road, La Crosse, WI 54601 U.S.A.; Monica Coello, Departamento de Ciencias Biológicas, Pontificia Universidad Católica del Ecuador, Carrión y 12 de Octubre, Quito, Ecuador.**